Motorist Cannot Afford to Leave to Chance This Most Important Part of His Car; How to Save Linings and Yet Control Car

By H. Clifford Brokaw Technical Director West Side Y.M.C.A. Automobile Schools.

Good brakes on the "old boat" are is likely to crumble away from the about the best form of life insurance the auto driver can have. In fact, they are about the most important part of A pretty poor sort of engine will run the car, but to stop it re-"Pretty good" will not do in an emer-You need a motor to get there, but without good brakes you may get too far. Like the orator, you need good terminal facilities.

There is nothing the matter with the brakes on most cars when they come from the factory. There will be little he matter with them at any time if they get the proper care—if oil is put accident. The brakes will hold the car as long as they are in condition;

Every car has two sets of brakes, operating independently of each other and either one should be in shape to hold the car at a standstill, or, in chauffeur phrasing, "slide the wheels." There are other means of braking on the car which will be mentioned later. But the average owner is careless about the brakes. Recently I rode in a car where the driver was afraid to trust either set. The foot brake held under ordinary conditions, but was no good for a sudden emergency stop. The hand brake would hold the car as long as you held the lever, but could not be set, as the ratchet was worn and every time we stopped on a grade I held the lever unless there was a convenient curb to run the wheel against.

against.

Some time ago, out in the country, I came across a smashed new Ford which on a long hill had burned out the brake lining, because the driver did not know, or forgot, that there was another set of brakes which he could use. He might have cut off the ignition and pressed the first speed pedal, which would have kept him at moderate speed by engine compression, or, with this particular car, might have pushed the reverse pedal, which would have been better still.

Drivers should learn to use first the

ot and then the emergency brake on ng hills. This alternating allows the in turn to cool off, for where there so much friction heat cannot be coided, and only by alternating the takes is there safety from burned t linings.

driver should learn also how to the engine as a brake. By engaging over gear and cutting off the ignition the engine under compression will ard the speed sufficiently so that derate use of the foot brake is least it is developed more slowly.
Brake linings newadays do not actuly burn out, being made of an asstos composition. But they char and
se frictional qualities and the fabric

of the brakes, if not the bands. There are many bearings and usually they are oiled with a squirt can. There is not much motion in any of the bearings, but it is fairly constant. Notice when driving, in the city particularly, the number of times the brake is applied, and remember just how the action is taking place in the mechanism. It will make you realize lubrication necessities.

is likely to crumble away from the wire woven within it.

A serious cause of brake failure is oil. As a rule this comes from the differential, leaking through the axie housing to the hub and overflowing thence to the brake drums. This may be the result of enthusiasm in lubrication, which prompts a too liberal quantity in the differential. Then when the car turns off the crown of the road the oil overflows the casing and the only outlet is the axle housing. And sometimes the play of the parts acts like a pump and sends the oil out along the axle. The remedy is using less oil, and if that does not remedy it put a felt washer in the axle housing.

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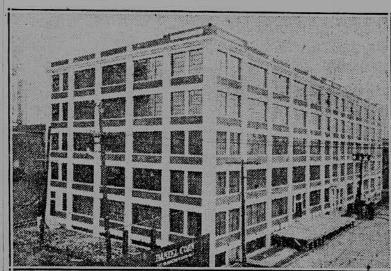
This consists of a long, thin strip of hard felt wound around the shaft. Wind it, beginning at the wheel end, in a direction opposite to the forward motion of the shaft. It should be fastened to the shaft with shellac and bound with cord in several places. It need not cover more than six or eight inches of the shaft.

A rather unusual case came to my

car as long as they are in condition; they are sufficient for all needs so long as they are in order. It is the driver's business to see that they are kept in this condition before going out, even if he cannot take time to look after the motor. It may be a matter of life and death before the garage is reached again.

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# Hitting on All Twelve

action is taking place in the mechanism. It will make you realize lubrication necessities.

If you do not know where to oil the brakes, look up the lubrication chart of your car in the manufacturer's instruction book and then locate each bearing by inspection. You will find that they collect plenty of road dust which needs to be removed, for this grit makes excessive wear, and wear means a weak part which may break when you need it most.

The springs which hold the brake bands clear of the drums need attention occasionally to see that they do their duty and are not broken. Another thing to watch is the condition of the trake lining. It may become greasy and will not grip the drum. The garage man will burn out the grease with a torch after removing the bands, and you can save this expense by doing it yourself. Soak it in kerosene and apply a match if you have no torch.

The linings wear thin, also, so that

grease with a torch after removing the bands, and you can save this expense by doing it yourself. Soak it in kerosene and apply a match if you have no torch.

The linings wear thin, also, so that the retaining rivets score the drum. Better let the repair man replace the linings, but if you are far from that individual and mechanically inclined, you may do the job if you can get the proper lining material, and remember to countersink the rivets. But it is a job better left to the experienced mechanic.

Magistrate House's example to the contrary notwithstanding, there isn't a cent's worth of value in sidewalk testimony as to speeding cases. No fair judge would ever hold a man on a charge based on a pedestrian's curbstone estimate of a man's speed, almost regardless of how expert the complainant might prove to be as to judging speed.

The amount of attention directed by police authorities to automobile affairs almost daily is serving to clinch the impression in the public wind that the

Inlings, but if you are far from that individual and mechanically inclined, you may do the job if you can get the you may do the job if you can get the you may do the job if you can get the you may do the job if you can get the you may do the job if you can get the you may do the job if you can get the you may do the job if you can get the you may be one of the mechanic.

Perfect safety may be had only by observing the foregoing and by keeping the brakes adjusted to work evenly on each rear wheel. Adjustments are made in front of each brake band and on the brake linkage. To adjust, jok up the rear wheels, set the brake and turn the adjustment until each brake when applied holds the two wheels with equal force.

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MSE for Goodrich

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The amount of attention directed by rolling in the policials and aduntion that the summor display in the public mind that the policials and aduntion that the policy is a dangerous character. An automobilist, you know, may be one of your best friends and acquain and and on the brake and turn the adjustment until each and turn the adjustment until e

jured.

In the main, however, the automobilist is not a person who puts in his time maining and slaying, and if there were less of a hue and cry raised against motorists by persons who seem to regard it as necessary and important they should continually pick on the man who owns a car the chances are that accidents would tend to decrease. It is certainly not soothing to the state of mind of any person to

No. of the

new locomotives, at a combined cost of \$1,184,000,000, to say nothing of passenger tracks, depots and employes, at



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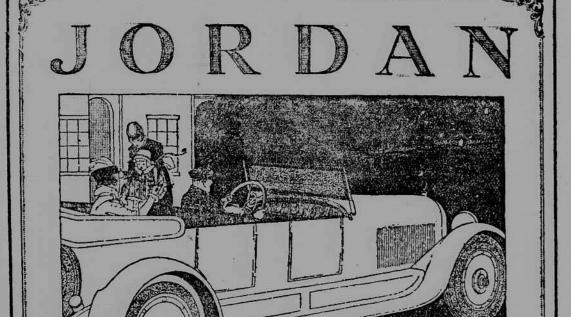
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